From wang!elf.wang.com!ucsd.edu!info-hams-relay Mon Apr 22 14:52:42 1991 remote
from tosspot
Received: by tosspot (1.64/waf)
     via UUCP; Mon, 22 Apr 91 20:29:27 EST
     for lee
Received: from somewhere by elf.wang.com
     id aa01784; Mon, 22 Apr 91 14:52:41 GMT
Received: from ucsd.edu by relay1.UU.NET with SMTP
     (5.61/UUNET-shadow-mx) id AA05701; Mon, 22 Apr 91 10:05:32 -0400
Received: by ucsd.edu; id AA26735
     sendmail 5.64/UCSD-2.1-sun
     Mon, 22 Apr 91 04:30:35 -0700 for nixbur!schroeder.pad
Received: by ucsd.edu; id AA26729
     sendmail 5.64/UCSD-2.1-sun
     Mon, 22 Apr 91 04:30:31 -0700 for /usr/lib/sendmail -oc -odb -oQ/var/spool/
lqueue -oi -finfo-hams-relay info-hams-list
Message-Id: <9104221130.AA26729@ucsd.edu>
Date: Mon, 22 Apr 91 04:30:26 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>
Reply-To: Info-Hams@ucsd.edu
Subject: Info-Hams Digest V91 #310
To: Info-Hams@ucsd.edu

Info-Hams Digest Mon, 22 Apr 91 Volume 91 : Issue 310

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 21 Apr 91 19:42:29 GMT
From: pa.dec.com!e2big.mko.dec.com!shlump.nac.dec.com!sousa.ltn.dec.com!
sndpit.enet.dec.com!smith@decwrl.dec.com
Subject: Adjust frequency of4 terminal, rectanglular oscillators?
To: info-hams@ucsd.edu

In article <1991Apr20.235945.7393@zoo.toronto.edu>, henry@zoo.toronto.edu (Henry
Spencer) writes...
>>> For space saving and cost reasons I would like to use one of
>>> those small can oscillators with 4 terminals...
>>Very probably what you've got there is a crystal oscillator...
>My mistake; turns out there are other things that use the same package.

Don't keep us in the dark Henry, what are those other things and how do
they work? I've seen QRP plans that use 4-terminal oscillators, and I've
always wondered why there was no filter indicated to get the square wave
down to a sine wave.... Are there 4-terminal oscillators with (modulatable
, is that a word?) sine-wave outputs?

Willie Smith
smith@sndpit.enet.dec.com
smith%sndpit.enet.dec.com@decwrl.dec.com
{Usenet!Backbone}!decwrl!sndpit.enet.dec.com!smith

Date: 21 Apr 91 23:40:59 GMT
From: ogicse!orstcs!jacobs.CS.ORST.EDU!youngqd@ucsd.edu
Subject: Adjust frequency of 4 terminal, rectanglular oscillators?
To: info-hams@ucsd.edu

For those who are interested I have been able to amplitude modulate
the output from one of those 4 terminal crystal oscillators. I
hooked the supply voltage in series with an ordinary telephone and
then I could press the touch tone buttons or speak into the mike
and this signal could be heard on a nearby reciever. My supply
voltage across both xtal osc. and phone was 12 volts. The phone had
6.5 volts and the xtal osc had 5.5 volts. It seems like a new form of
QRP has been born.

Now, if I could just find some that allow me to tweek the frequency!

Dean Youngquist   youngqd@jacobs.cs.orst.edu
428 NW 9th St.   Amateur Radio Operator N7LPE
Corvallis, Oregon 97330   Tel. (503) 757-0335

Date: 21 Apr 91 09:07:19 GMT
From: crash!hale!system@ucsd.edu
Subject: FM SCA Subcarrier Demodulation
To: info-hams@ucsd.edu

szeto@kilroy.jpl.nasa.gov (James T. Szeto) writes:

> After reading the FCC Rules and Regulations concerning the engineering standa
> for subsidiary communications (SCA), I was wondering if someone would give a
> clearer understanding on how SCA is added to the FM signal and how it is
> recovered from the signal. Also, I'm looking for a reference where I may fin
> an example circuit which recovers SCA.
>

SCA is used to transmit various programming, usally on a subscription basis, services like background music are the most common, but there have been some dabling with data transmission, paging services, etc...

The FM signal (without getting into tech) generates two sidebands, which can be modulated to carry additional information, the decoder just adds an offset to the recieved signal to recieve the SCA (also known as MPX for Multiplex.)

North Country Radio (PO Box 53, Wykagyl Station, New Rochelle, NY 10804) sells a kit for SCA/MPX decoding for $75 and $2.50 S&H, I believe the company just sells kits that Rudolf Graf and William Sheets come up with, which appear in electronic mags as "Build This" type things.

Panaxis Productions (PO Box 130, Paradise, CA 95967-0130) sells one also, and has a much larger catalog, Ernie Wilson even has a kit for SCA Generation if you want to that involved, my catalog is not handy for prices, sorry. ($140 I think for the SCA Generator)

This is very basic, note the time if you want to flame for gross lack of technical detail.

Future BE in slavery.

---------------------------------------=--
System Administrator   Hale Telecommunications Public Access
system@hale.uucp   619-660-6734 8N1 24 Hours
---------------------------------------=--
------=---------------------------------------

Date: 21 Apr 91 17:02:58 GMT
From: pacbell.com!tandem!zorch!ditka!zygot!bolero!duncan@ucsd.edu
Subject: FM SCA Subcarrier Demodulation
To: info-hams@ucsd.edu

In article <1991Apr19.050618.23977@elroy.jpl.nasa.gov> szeto@kilroy.jpl.nasa.gov (James T. Szeto) writes:
>After reading the FCC Rules and Regulations concerning the engineering standard
>for subsidiary communications (SCA), I was wondering if someone would give a
>clearer understanding on how SCA is added to the FM signal and how it is
>recovered from the signal. Also, I'm looking for a reference where I may find
>an example circuit which recovers SCA.
>
There's no big technical mystery to "SCA" operation. This is simply a plain vanilla subcarrier addition process. The total stereo program material, which also includes a DSB subcarrier at 38 kHz, is considered to theoretically use up the first 53 kHz of the roughly speaking 100 kHz bandwidth available in the usual FM broadcast carrier. In the remaining space it is common to add one or more subcarriers which can carry data, Muzak, paging, stock market quotes, or whatever.

Typically, a broadcaster may elect to add a 67 kHz subcarrier which has been modulated by whatever "SCA" material. That's all there is to it basically; it's just added in with a relatively simple network.

Recovery is also quite easy. In this case, one would simply take an FM detector circuit tuned to 67 kHz and attach it to the receiver's detector circuit.

The mulitplex or subcarrier process is discussed in many books, probably some ham publications as well. The most convenient FM detector for subcarriers is the PLL, so you would need to find applications notes for these from National Semiconductor, Exar, or especially Signetics. The NS literature is readily available; it even used to be carried by Radio Shack (and maybe still is). e

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KUFX | w ["] | WA6MBV
94.5 |.. |___|_____..duncan@bolero.ati.com | Jim Duncan
FM | H | +1 408 297 5977
          _____I_____/ 37 3 10N/121 59 10W ---------------

Date: 21 Apr 91 08:38:03 GMT
From: news-mail-gateway@ucsd.edu

Subject: MAJOR SOLAR FLARE ALERT - IMPACT EXPECTED
To: info-hams@ucsd.edu

-- MAJOR SOLAR FLARE ALERT --

APRIL 20, 1991

Flare Event Summary
Potential Impact Assessment

MAJOR ENERGETIC EVENT SUMMARY

A large, long-duration flare ripped out of decaying Region 6583 on 20 April. The flare began at 09:37 UT, peaked at 10:31 UT and ended at 11:24 UT on 20 April. The event reached a class X1.0/3N rating and was associated with a long-duration 2,300 s.f.u. tenflare lasting for 69 minutes. A moderate to high-intensity Type IV sweep was observed with this event. No confirmed reports of HF SWF's have been received yet, although this is likely due to a lack of coverage. The flare occurred from Region 6583 at a location of N08W50, a fairly sensitive location quite capable of producing terrestrial impacts (see below).

This flare was a very big surprise. Although Region 6583 has maintained complexity, it has not been flare-active and has actually been decaying. A major flare from this region was not anticipated, although a Potential Major Flare Warning was still active at the time (and remains active), since this region maintained a configuration capable of producing major flares.

POTENTIAL TERRESTRIAL IMPACT ASSESSMENT

A terrestrial impact IS EXPECTED from this latest major flare. No significant protons have been observed from this event, although the duration, intensity and size of this event is expected to produce a minor to major geomagnetic storm.

A magnetic SSC is expected to be observed coincident with the interplanetary shock arrival, sometime near or after 21:00 UT on 21 March or early on 22 March (UT time). A minor to major geomagnetic storm is expected to develope several hours thereafter. Estimated planetary A-indices are 7 for 18:00 UT on 21 April, 16 for 00:00 UT on 22 April, and 40 for 18:00 UT on 22 April. These are only rough estimates. The actual values could exceed 60 if the storm materializes and is more intense than predicted. However, if

the storm occurs as predicted, the intensity almost certainly won't exceed the major storm which occurred one month ago in late March.

A LOW LATITUDE AURORAL ACTIVITY WARNING has been issued for 22 and possibly 23 April. Auroral activity is expected to become high over the northerly middle and high latitude regions. The intensity of the activity could be sufficient to produce visible auroral activity over the lower latitudes, particularly after the moon sets in the early morning hours. If the storm materializes as expected, the auroral activity should be much more impressive visually, than the major storm of last March due to the phase of the moon. The best views will be possible from a dark location away from city lights and after the moon sets.

Geomagnetic activity over the middle and high latitudes could be sufficient to produce geomagnetically induced currents. Organizations which might be affected should be aware of the increased potential which will exist on 22 and possibly 23 April.

HF propagation conditions are expected to become degraded late on 21 or early on 22 April in response to the arrival of the flare shock and the accompanying induced geomagnetic and auroral activity. Conditions are not expected to be as poor as was observed in late March, although similar conditions over many paths are possible. No significant widespread HF blackouts are expected, except possibly over the high and/or polar latitudes. DX should still be possible, although to a limited and more localized extent. However, expect possibly severe degradation in signal quality when attempting DX on 22 and/or 23 April.

There is a very good possibility for VHF auroral backscatter communications on 22 and possibly 23 April. Middle and high latitudes will experience the highest probabilities for VHF communications on these days, although the southerly middle and low latitudes could also experience VHF auroral backscatter communications, particularly in the late afternoon and near local midnight (use low-angle northerly-directed transmissions).

Major flaring is not expected from Region 6583, although M-class flaring will remain possible. This region is not expected to be able to regenerate itself to produce another major flare for at least another 24 to 48 hours (if it regenerates at all).

Watch for a potential Geomagnetic Storm Alert late on 21 or early on 22 April.

** End of Alert **

Date: 21 Apr 91 22:33:39 GMT
From: usc!zaphod.mps.ohio-state.edu!uakari.primate.wisc.edu!caen!uwm.edu!
ux1.cso.uiuc.edu!phil@ucsd.edu
Subject: Newer HF rigs
To: info-hams@ucsd.edu

degood@hpavla.avo.hp.com (John DeGood) writes:

>Assume your McIntosh tube stereo drew 100 watts idling:

>   24 hours   365 days
>100 Watts x -------- x -------- x 23 years = 20,148,000 Watt Hours
>   day   year

>Using a 1991 electric rate of $0.08/kWhr, that comes to about $1612.
>Sounds like a great way to save money. :-)

Well, yes and no. In the winter this energy is heating up the place.
One needs then to calculate the different between the electrical costs
and what you COULD pay to get the same heat using other means. In the
summer, you are not only paying for heat you don't need, you may also
be paying EXTRA on A/C to pump the heat outside.
--
 /***\
/ Phil Howard -- KA9WGN -- phil@ux1.cso.uiuc.edu | Guns don't aim guns at \
\ Lietuva laisva -- Brivu Latviju -- Eesti vabaks | people; CRIMINALS do!! /
 ***/

Date: 21 Apr 91 07:46:30 GMT
From: news-mail-gateway@ucsd.edu
Subject: POTENTIAL GEOMAGNETIC STORM WARNING - IMPACT EXPECTED
To: info-hams@ucsd.edu

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POTENTIAL GEOMAGNETIC STORM WARNING

21/22 APRIL, 1991

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WARNINGS ISSUED:

  - POTENTIAL LOW LATITUDE AURORAL ACTIVITY WARNING
  - POTENTIAL MINOR TO MAJOR GEOMAGNETIC STORM WARNING

- POTENTIAL GIC WARNING
- POTENTIAL MAJOR SOLAR FLARE WARNING (PROTON)

ALERTS IN PROGRESS:

- MAJOR SOLAR FLARE ALERT (X1.0/3N ON 20 APRIL)

ATTENTION:

A minor to major geomagnetic storm warning has been issued. A major long-duration class X1.0/3N Tenflare occurred at 10:31 UT on 20 April and was associated with a moderate to strong Type IV sweep. This event is expected to produce a minor to major geomagnetic storm beginning anytime after about 21:00 UT on 21 April. The main phase is not expected to begin until sometime on 22 April.

The intensity of this storm could push the planetary A-index above 40. High and northerly middle latitudes are expected to feel the brunt of the storm, with possible magnetic A-indices between 35 and 60. Planetary K-indices are expected to reach 5 and 6, with possible brief excursions of 7.

A LOW LATITUDE AURORAL ACTIVITY WARNING has been issued for 22 April. There is a chance that geomagnetic and auroral storming could become intense enough to be seen over southerly middle and low latitudes, particularly during the moonless hours of the early morning. Activity is expected to be moderate to high over all northerly middle and high latitude locations. If this storm materializes, the activity could be quite intense and more impressive over the middle and high latitudes than the storm of last March, primarily due to the waxing phase and reduced luminosity of the Moon. However, the overall intensity of the geomagnetic and auroral storm is not expected to be as intense as last March.

There is a risk for geomagnetically induced currents (GIC's) if this storm materializes as expected. The intensity of the storm likely will not be as strong as the storm of last March, but isolated magnetic activity could be sufficient to produce induced currents. All industries and organizations which might be affected should be aware of the increased potential for GIC's.

HF propagation conditions are expected to become degraded late on 21 April or early on 22 April. Significant periods of absorption, flutter, noise and distortion could be observed over most paths, but particularly over the middle and high latitude paths. The intensity of the degradation will not be as bad as the major geomagnetic storm which occurred one month ago, but could still significantly disrupt HF communications.

There is a high probability for VHF auroral backscatter communications on 22 and possibly 23 April. VHF auroral backscatter should become possible

over the northerly low latitudes, middle latitudes and high latitudes on 22 and possibly 23 April.

The duration of this storm is expected to be around 36 hours, although this is only a very rough estimate.

A geomagnetic storm alert will be issued if the SSC arrives as expected late on 21 or early on 22 April.

PLEASE SEND ANY REPORTS OF AURORAL ACTIVITY, AURORAL BACKSCATTER COMMUNICATIONS OR SIGNIFICANT HF RADIO DEGRADATION TO: OLER@HG.ULETH.CA
PLEASE INCLUDE THE LOCAL AND UT TIME OF OBSERVATION, GEOGRAPHICAL LOCATION (LATITUDE/LONGITUDE) AND A BRIEF DESCRIPTION OF THE PHENOMENA OBSERVED.

/\

Date: 18 Apr 91 13:48:26 GMT
From: hsdndev!bbn.com!nic!mars!gandalf!hayward@rice.edu
Subject: Question about GNS server.
To: info-hams@ucsd.edu

In article <1991Apr17.203342.11325@relay.nswc.navy.mil>
wcollin@relay.nswc.navy.mil (William Dave Collins - E41) writes:
:I just called it and got an Internet address of:
:141.212.100.9
:Hope this helps!
:David

Is this port 2000 as on the other servers? If not, what is
the login procedure?

Peter

--

Peter B. Hayward WX9T
University of Maine 207-581-1545

Date: 21 Apr 91 05:17:28 GMT
From: news-mail-gateway@ucsd.edu
Subject: RACES Bulletin #166

To: info-hams@ucsd.edu

TO: ALL EMERGENCY MANAGEMENT AGENCIES/OFFICES VIA THE ARS
INFO: ALL RACES OPERATORS IN CA (ALLCA: OFFICIAL)
       ALL AMATEURS U.S.   (@ USA: INFORMATION)
FROM: CA STATE OFFICE OF EMERGENCY SERVICES (W6HIR @ WA6NWE.CA)
       2800 Meadowview Rd., Sacramento, CA 95832 (916)427-4281
RACESBUL.166   DATE: April 22, 1991
SUBJECT: How to help your Radio Officer

You emergency management agency managers frequently ask what your Radio Officer should know. Many of the subjects have been covered in past Bulletins. Several Radio Officers have recently suggested the importance of their knowing about, understanding, and cooperating with the other public safety communications managers in your government. This will help to enable your volunteer communications resources to fit it in better than if they are held aside as a last resort, when all else fails, or a doomsday resource. Such RACES units usually fade away not too long after being organized. If they are an outside group, they may not be equipped with adequate training and preconditioning from you and your jurisdiction. Any volunteer is only as good as the training he or she seeks and receives. We have heard from many Radio Officers who support the premise that they are of more value when they gain an understanding of the strengths and weaknesses of the public safety communications systems in their area. They are encouraged to become members of their local Associated Public-Safety Communications Officers chapter. Some jurisdictions pay the APCO dues for their RACES Radio Officer and broaden the scope of their duties to include all volunteer communications services. We know of several people who have entered the public safety career field in this manner.

EOM

Date: 19 Apr 91 15:51:12 GMT
From: hpda!hpwala!hpavla!degood@hplabs.hpl.hp.com
Subject: Re: Newer HF rigs
To: info-hams@ucsd.edu

> You mean you turn your radios off? Radios, computers, and stereos never
> get turned off around here except when they need repair. My McIntosh
> stereo was on continously from April 1967 until last fall when I sold
> it to a collector. It was only switched off twice for tube changes and
> once for a filter capacitor replacement in all that time. They last
> longer if you aren't constantly switching them on and off.

>
> Gary KE4ZV

Assume your McIntosh tube stereo drew 100 watts idling:

```
         24 hours   365 days
100 Watts x -------- x -------- x 23 years = 20,148,000 Watt Hours
              day        year
```

Using a 1991 electric rate of $0.08/kWhr, that comes to about $1612.
Sounds like a great way to save money. :-)

John NU3E

Date: 21 Apr 91 23:24:47 GMT
From: swrinde!cs.utexas.edu!uwm.edu!ux1.cso.uiuc.edu!uxa.cso.uiuc.edu!
trd10523@ucsd.edu
Subject: What's the Law on Cellular Listening?
To: info-hams@ucsd.edu

ptc@b15.b15.ingr.com (Paul Carter) writes:

>I've told my girlfriend who is a lawyer (yes, I know..I've told her
>all the lawyer jokes out of rec.humor) about reading on the bulletin
>board that it is illegal to listen in on cellular phone conversations.
>She, and some of the members of her firm, have argued this. She is
>telling me that nothing broadcast in the airwaves is confidential. I,
>trusting the wisdom of the net, have gone out on a limb and wagered
>her a candlelight dinner (among other things) that there is a law
>somewhere on the books that says it is illegal. Can anyone post the
>exact law which states this? Is it an FCC regulation?
>Paul

The Electronic Communications Privacy Act (aka ECPA) of 1986 states that it
is illegal to monitor cellular phone conversations, as well as scrambled
transmissions and a few other things.

Logic does make it seem that nothing broadcast is confidential, and the
judicial system upheld the legality of monitoring cordless phone conversations,
but ECPA does explicitly prohibit monitoring of cellular phones.
Of course, the question of enforcement is brought up. So far, the only
story I've heard about ECPA enforcement has to do with some political battle
in Georgia. The parties involved made tapes of cellular conversations and
tried to use the tapes as weapons. That kind of blatent violation is hard
to ignore.

Paul - you win the bet! Congrats!

--
/ Todd Davis   INTERNET: trd10523@uxa.cso.uiuc.edu   /
/ Computer Engineering Student   COORDINATES: 40 06' 47" N / 88 13' 35 W /
/ University of Illinois at Urbana-Champaign   Radio Monitor KIL9MS /
/ QUOTE OF THE WEEK: "Now that the media has discovered the Middle East, /
/ they're more concerned with the homeless people over there than they   /
/ are with the homeless people in this country." - Paul Harvey   /

End of Info-Hams Digest
****